

ABSTRACT OF THE DISCLOSURE

- 30 A method for automatic local path planning for a virtual endoscope comprises the steps of defining a sub volume around a current endoscope position in a lumen; performing a region growing inside the lumen, starting from the current endoscope position; calculating and clustering the intersection of the region with the faces of a cube circumscribing the sub volume; calculating approximated centerline paths from the
- 35 current endoscope position to the center of each cluster formed in the preceding step; comparing each of the centerline paths with a current path exhibited by the endoscope; and selecting an optimal centerline path based on the comparison.